

# Commercial Space Transportation Experimental Permit

Experimental Permit Number: EP 14-009 (Rev 2)

**Blue Origin, LLC**

**is authorized, subject to the provisions of 51 USC Subtitle V, ch. 509, and the orders, rules, and regulations issued under it, to conduct launches.**

General. The permittee is authorized to conduct:

- (1) An unlimited number of flights of the New Shepard System within the operating area identified by permit order A; and
- (2) Pre-flight and post flight ground operations at West Texas Launch Site associated with flights of the New Shepard System.

**This permit is granted subject to the terms, conditions, and limitations set forth in permit orders A and B, and any subsequent orders issued by the Office of Commercial Space Transportation.**

**The permittee shall at all times conduct its operations in accordance with the regulations prescribed by the Office of Commercial Space Transportation for the activities authorized by this experimental permit.**



US Department  
of Transportation  
Federal Aviation  
Administration

800 Independence Ave., S.W.  
Washington, D.C. 20591

Original Issued On: February 14, 2014  
Rev 2 Issued On: February 5, 2016  
Rev 2 Effective On: February 14, 2016

  
\_\_\_\_\_  
Manager, Licensing & Evaluation Division

**Revision History:**

Original Permit Order - Issued February 14, 2014

Revision 1 - Issued February 12, 2015

- 1) Redesignated Experimental Permit Number: EP 14-009 with EP 14-009 (Rev 1).
- 2) Added Rev 1 issue date of February 12, 2015.
- 3) Changed effective date to February 14, 2015.

Revision 2 - Issued February 5, 2016

- 1) Redesignated Experimental Permit Number: EP 14-009 (Rev 1) with EP 14-009 (Rev 2).
- 2) Added Rev 2 issue date of February 5, 2016.
- 3) Changed effective date to February 14, 2016.

**Experimental Permit Order No. EP 14-009A (Rev 3)**

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
EXPERIMENTAL PERMIT ORDER REGARDING

**REUSABLE SUBORBITAL ROCKET LAUNCHES**

Under Experimental Permit No. EP 14-009 (Rev 2)  
Issued to

BLUE ORIGIN, LLC

- 
1. Authority: This Order is issued to Blue Origin, LLC (Blue Origin) under 51 U.S.C. Subtitle V, Chapter 509 and 14 C.F.R Ch. III.
  2. Purpose: This Order modifies Experimental Permit No. EP 14-009 (Rev 2) (the Permit) issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation (Office), authorizing Blue Origin to conduct launches of its New Shepard System reusable launch vehicle. This Order prescribes definitions and conditions applicable to each launch conducted by Blue Origin under the Permit.
  3. Definitions: For purposes of the permit and any orders issued by the Office modifying the Permit, the following definitions apply:
    - (a) "Operating Area" means a three-dimensional circular region with a radius of 7 miles centered on Blue Origin's North Landing Pad at 31.4517° North latitude and 104.7628° West longitude.
    - (b) "Pre-flight ground operations" begin with pressurization of helium and nitrogen bottles in Blue Origin's vehicle processing facility.
    - (c) "Post-flight ground operations" begin when the New Shepard System has landed and end after Blue Origin returns the vehicle to a safe condition. Post-flight ground operations include depressurization and venting of hazardous materials from the vehicle.

4. Safety Clear Zone:

- (a) During pressurization of helium and nitrogen bottles, Blue Origin must establish a safety clear zone of 73 feet outside of the east wall of the vehicle processing facility (VPF), 77 feet outside of the west wall of the VPF, 97 feet outside of the south wall of the VPF, and 75 feet outside of the north wall of the VPF.
- (b) During propellant loading of the New Shepard System, Blue Origin must establish a safety clear zone with an 8,990 feet radius from the launch point at 31.423° North latitude and 104.757° West longitude.
- (c) During post-flight ground operations, Blue Origin must establish a safety clear zone with a 5,280 foot radius from the landing point of the Propulsion Module until the vehicle is determined to be safe.
- (d) During post-flight ground operations, Blue Origin must establish a safety clear zone with a 1500 foot radius from the landing point of the Crew Capsule until the vehicle is determined to be safe.

5. Allowable Design Changes: In accordance with 14 C.F.R § 437.85(a), Blue Origin may make the following design change to the New Shepard System without invalidating the Permit provided that Blue Origin does not alter its demonstration of compliance with 14 C.F.R §§ 437.55, 437.57, 437.59, and 437.61.

- Thrust Termination System (TTS) Software: Blue Origin may make changes to the Flight Manager and TTS software to decrease the maximum potential horizontal range of the vehicle, decrease maximum potential vertical range of the vehicle, or decrease the allowable tilt angle of the vehicle.

6. Permit Term: The term of the Permit is one year from February 14, 2016, the effective date of the Permit.

**Experimental Permit Order No. EP 14-009A (Rev 3)**

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By:

  
Kenneth Wong, Manager  
Licensing & Evaluation Division

Original Issued: February 14, 2014  
Rev 3 Issued: February 5, 2016  
Rev 3 Effective: February 14, 2016

**Revision History:**

Original Permit Order - Issued February 14, 2014

Revision 1 - Issued December 19, 2014

- 1) Revised paragraph 3(c) to correct the post-flight ground operations definition.
- 2) Revised paragraph 4(c) to clarify post-flight Propulsion Module Safety Clear Zone.
- 3) Added paragraph 4(d) to establish post-flight Crew Capsule Safety Clear Zone.
- 4) Deleted previous paragraph 5 on final vehicle inspection due to compliance with term.
- 5) Renumbered and revised paragraph 6 to clarify allowable changes to the Thrust Termination System software.
- 6) Deleted previous paragraph 7 on Other Requirements because operating area restrictions are specified in 14 CFR part 437 and Blue Origin's experimental permit application.

Revision 2 - Issued February 12, 2015

- 1) Redesignated Experimental Permit Number: EP 14-009A "(Rev 1)" with EP 14-009A "(Rev 2)".
- 2) Revised paragraph 2 to replace "EP 14-009" with "EP-14 009 (Rev 1)".
- 3) Revised paragraph 6 to replace "February 14, 2014" with "February 14, 2015".
- 4) Changed Effective: February 14, 2014 to Effective: February 14, 2015.

**Experimental Permit Order No. EP 14-009A (Rev 3)**

Revision 3 - Issued February 5, 2016

- 1) Redesignated Experimental Permit Number: EP 14-009A "(Rev 2)" with EP 14-009A "(Rev 3)".
- 2) Revised paragraph 2 to replace "EP 14-009 (Rev 1)" with "EP-14 009 (Rev 2)".
- 3) Revised Paragraph 4(a) to increase the size of the pre-flight Safety Clear Zone.
- 4) Revised paragraph 6 to replace "February 14, 2015" with "February 14, 2016".
- 5) Changed Effective: February 14, 2015 to Effective: February 14, 2016.

**Experimental Permit Order No. EP 14-009B (Rev 2)**

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
EXPERIMENTAL PERMIT ORDER REGARDING

**REUSABLE SUBORBITAL ROCKET LAUNCHES**

Under Experimental Permit No. EP 14-009 (Rev 2)  
Issued to

BLUE ORIGIN, LLC

- 
1. Authority: This Order is issued to Blue Origin, LLC (Blue Origin) under 51 U.S.C. Subtitle V, Chapter 509 and 14 C.F.R. part 440.
  2. Purpose: This Order modifies Experimental Permit No. EP 14-009 (Rev 2) (the Permit) issued concurrently by the Federal Aviation Administration's Office of Commercial Space Transportation (Office), by prescribing financial responsibility requirements for permitted activities in accordance with 14 C.F.R. part 440.
  3. Definitions: For the purposes of this order, "permitted launch activities" means activities authorized by the Permit. Other terms used in this Order are defined in accordance with 14 C.F.R. § 440.3
  4. Liability Insurance: Blue Origin must maintain a policy or policies of liability insurance (or otherwise demonstrate financial responsibility) in accordance with 14 C.F.R. § 440.9(b) in the amount of Six Million Dollars (\$6,000,000) for covered claims resulting from permitted activities performed at West Texas Launch Site as described in Experimental Permit Order No. EP 14-009A (Rev 3) for each launch of the New Shepard System.

OFFICE OF COMMERCIAL SPACE TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

By:

  
Kenneth Wong, Manager  
Licensing & Evaluation Division

Original Issued: February 14, 2014  
Rev 2 Issued: February 5, 2016  
Rev 2 Effective: February 14, 2016

**Experimental Permit Order No. EP 14-009B (Rev 2)**

**Revision History:**

Original Permit Order - Issued February 14, 2014

Revision 1 - Issued February 12, 2015

- 1) Redesignated Experimental Permit Number "EP 14-009B" with "EP 14-009B (Rev 1)".
- 2) Revised paragraph 2 to replace "EP 14-009" with "EP-14 009 (Rev 1)".
- 3) Revised paragraph 4 to replace "EP 14-009B (Rev 1)" with "EP 14-009B (Rev 2)".
- 4) Changed Effective: February 14, 2014 to Effective: February 14, 2015.

Revision 2 - Issued February 5, 2016

- 1) Redesignated Experimental Permit Number "EP 14-009B (Rev 1)" with "EP 14-009B (Rev 2)".
- 2) Revised paragraph 2 to replace "EP 14-009 (Rev 1)" with "EP-14 009 (Rev 2)".
- 3) Revised paragraph 4 to replace "EP 14-009B (Rev 2)" with "EP 14-009A (Rev 3)".
- 4) Changed Effective: February 14, 2015 to Effective: February 14, 2016.